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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

File the Application of:

Norihiro SUZUKI et al.

Serial No. 10/575,230

Group Art Unit: 3653

Confirmation No. 6966

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Examiner: SANDERS, Howard J.

For: PAPER SUPPLY APPARATUS

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief-Patents

Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450

Sir:

In a Notice of Appeal filed September 24, 2010, Applicants appealed the Examiner's June 24, 2010 Office Action finally rejecting claims 1-2 and 4-7. A two-month period from the Notice's date is the due date for filing the Appeal Brief, which accordingly is due November 24, 2010. A Petition for a two-month extension of time, together with the requisite fee for same, is submitted herewith, thereby extending the period for filing this Appeal Brief to January 24, 2011.

The requisite fee set forth in 37 C.F.R. § 41.20(b) is not being submitted herewith because it was previously paid on March 24, 2010 and it is respectfully requested that the previously paid fee be applied to this new appeal (see page 2 of the final Office Action dated June 24, 2010).

If there are any additional fees associated with filing of this Appeal Brief, please charge the same to our Deposit Account No. 19-3935.

I. REAL PARTY IN INTEREST

The real party in interest is PFU Limited, the assignee of this application.

II. RELATED APPEALS AND INTERFERENCES

Appellants, appellants' legal representative, and the assignee do not know of any prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-2 and 4-7 have been rejected and are on appeal. Claim 3 is indicated as reciting allowable subject matter, but rejected as depending from a rejected base claim.

IV. STATUS OF THE AMENDMENTS

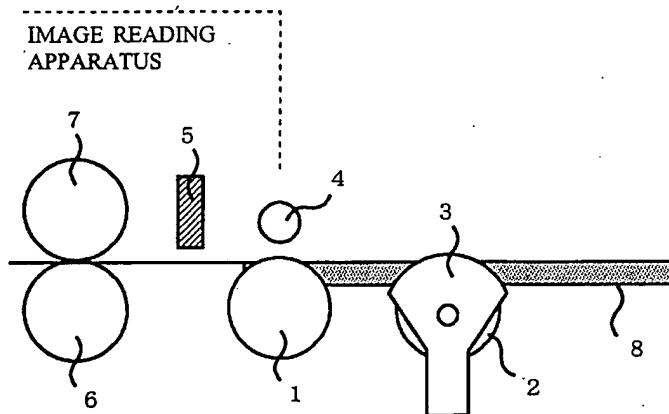
No amendments are submitted herewith. The amendments of June 8, 2009 were entered, as indicated by the Office Action mailed October 13, 2009.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

a. Claim 1

Independent claim 1 is directed to a bottom removal-type paper supply apparatus (see e.g., FIG. 1 of the application reproduced below and paragraphs [0020]-[0023] on page 11-13 of the specification).

FIG. 1



The apparatus of claim 1 has a “a paper support base on which paper is stacked located at a bottom part of the bottom removal-type paper supply apparatus” (see e.g., item 8 in FIG. 1 of the application and paragraph [0020], lines 4-7 on page 11 of the specification).

Further the apparatus of claim 1 has “a first pickup roller provided at an end portion of the paper stacked on the paper support base, on a side toward a body of the bottom removal-type paper supply apparatus, and which picks a paper sheet from the paper stacked on the paper support base from the bottom and transports the paper sheet on a paper path” (see e.g., item 1 in FIG. 1 of the application and paragraph [0020], lines 4-10 on page 11 of the specification).

The apparatus of claim 1 also has “a pressing roller which applies a pressure to the paper stacked on the paper support base towards the first roller, and which is provided at the end portion of the paper stacked on the paper support base” (see e.g., item 4 in FIG. 1 of the application and paragraph [0020], lines 14-21 on page 11 of the specification).

Further the apparatus of claim 1 has “a second pickup roller provided at a central portion of the paper stacked on the paper support base, and selectively assisting the first pickup roller to transport the paper sheet into the bottom removal-type paper supply apparatus” (see e.g., item 2 in FIG. 1 of the application and paragraph [0021], on pages 11-12 of the specification).

The apparatus of claim 1 also has “a shutter switchable between an open state in which the paper is in contact with the second pickup roller enabling the second pickup roller to assist the first pickup roller to transport the paper on the paper path, and a closed state in which the shutter prevents the contact between the paper and the second pickup roller, the shutter being provided on the second pickup roller” (see e.g., item 3 in FIG. 1 of the application and paragraph [0022], on pages 12-13 of the specification).

b. Claim 2

Claim 2, which depends from independent claim 1, is directed to a bottom removal-type paper supply apparatus having all the features set forth in claim 1, and further specifying that “the pressure applied to the paper by the pressing roller is adjustable” (see e.g., paragraph [0024], on pages 13-14 of the specification).

c. Claim 4

Claim 4, which depends from independent claim 1, is directed to a bottom removal-type paper supply apparatus having all the features set forth in claim 1, and further having “a sensor located along the paper path, to sense when the first pickup roller fails to transport the paper on the paper path while the shutter is in the closed state, and to send a control signal to switch the

shutter in the open state, the shutter being controlled to be in the open state when a failure of the first pickup roller to transport the paper on the paper path has occurred, and to be in the closed state while the first pickup roller successfully transports the paper on the paper path through the apparatus" (see e.g., paragraph [0023] on page 13 of the specification).

d. Claim 5

Independent claim 5 is directed to a paper supplying device supplying one sheet of paper at a time in an image processing apparatus (see e.g., FIG. 1 of the application and paragraphs [0020]-[0023] on page 11-13 of the specification).

The apparatus of claim 5 has "a first pickup roller, located at an end portion of a paper stack, to pick a paper sheet from the paper stack, and to transport the paper sheet into the paper supply apparatus" (see e.g., item 1 in FIG. 1 of the application and paragraph [0020], lines 4-10 on page 11 of the specification).

Further the apparatus of claim 5 has "a second pickup roller, located at a central portion of the paper stack, to assist the first pickup roller to transport the sheet of paper into the paper supply apparatus when the paper stack weighs more than a prescribed weight" (see e.g., item 2 in FIG. 1 of the application and paragraph [0021], on pages 11-12 of the specification).

The apparatus of claim 1 also has "a shutter to prevent contact between the second pickup roller and the paper stack while the paper stack weights less than the prescribed weight" (see e.g., item 3 in FIG. 1 of the application and paragraph [0022], on pages 12-13 of the specification).

e. Claim 6

Claim 6, which depends from independent claim 1, is directed to a bottom removal-type paper supply apparatus having all the features set forth in claim 1, and further specifying that "the shutter and the second pick-up roller have a common axis, and the shutter has at least one first portion that has an arcuate cross section, which extends to a larger distance from the common axis than the pickup roller, and at least one second portion, which extends to a smaller distance from the common axis than the pickup roller and the at least one first portion is in contact with the paper stacked on the paper support base when the shutter is closed" (see e.g. FIGS. 3, 4, 5A and 5B and paragraph [0029] on page 16 of the specification).

f. Claim 7

Claim 7 which depends from claim 2 and indirectly from independent claim 1 is directed to a bottom removal-type paper supply apparatus having all the features set forth in claims 1 and

2, and further specifying that "the pressure applied to the paper by the pressing roller is increased in steps when the first pickup roller fails to transport the paper on the paper path" (see e.g., paragraph [0025], on pages 14-15 of the specification).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The rejection of claims 1-2 and 4-6 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,755,434 to Takatoshi et al. (hereinafter "Takatoshi").

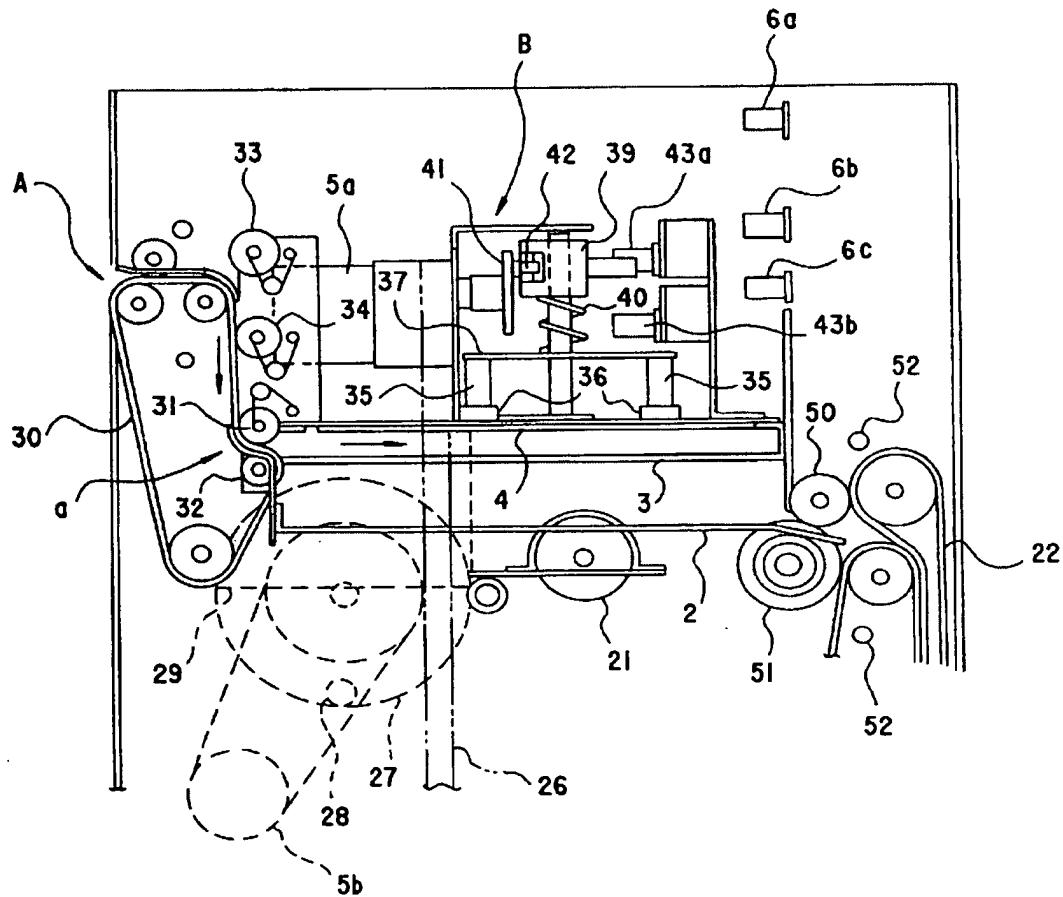
The rejection of claims 2 and 7 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takatoshi in view of U.S. Patent No. 6,247,693 to Kawano (hereinafter "Kawano").

VII. ARGUMENT

a. Review of the prior art

Takatoshi discloses the structure of a dispensing hopper for a bank note processing machine (see FIG. 1 in Takatoshi reproduced below).

Fig.1



The Examiner takes the position that item 2 corresponds to the paper support base recited in claim 1. Takatoshi describes the indicated item as being a dispensing hopper section (2) (see FIG. 1, Abstract, and col. 4, lines 29-35 of Takatoshi).

Further, the Examiner indicates the note feeding roller 51 as corresponding to the first pickup roller recited in claim 1. Relative to the note feeding roller 51, on col. 4, lines 59-65, Takatoshi states:

Out of the dispensing side end of the dispensing hopper 2, note feeding rollers 50, 51 are provided close to the introducing side of the belted transferring apparatus 22. The letting-out roller 21 is linked with the note feeding roller 51 via a transmission means 53 which is operated by a main motor. First sensors 52 are mounted near the note feeding rollers 50, 51.

Further, the Examiner takes the position that the feeding roller 50 of Takatoshi corresponds to the pressing roller recited in claim 1. Furthermore, the Examiner asserts that the letting-out roller 21 of Takatoshi corresponds to the second pickup roller 21.

Finally, the Examiner takes the position that the stoppers 60 of Takatoshi are included in a mechanism corresponding to the shutter recited in claim 1. Regarding the stoppers 60, col. 5 lines 32-40, Takatoshi discloses that “they are movable in a vertical direction” and

As soon as the note becomes out of contact with the letting-out roller 21, the stoppers 60, 60 rise to push up the next, succeeding bank note so that it may not touch the roller 21. Thus, two sheets of bank note are prevented from letting out at the same time, or many notes are prevented from successive letting out, and the ordered number of sheets of note can be dispensed efficiently by repeating the above-mentioned movement of the stoppers just the ordered number of times.

- b. **Takatoshi does not anticipate “a second pickup roller [...] selectively assisting the first pickup roller to transport the paper sheet into the bottom removal-type paper supply apparatus” as recited in claim 1**

The Examiner takes the position that the letting-out roller 21 (see e.g. FIG. 1 of Takatoshi) corresponds to the second pick-up roller recited in claim 1. However, in Takatoshi, no banknote is output unless the letting out roller 21 is in contact with the banknotes stack (see col. 5, lines 13-40). Therefore, the letting-out roller 21 does not anticipate or render obvious the second pickup roller recited in claim 1 which “selectively [assists] the first pickup roller to transport the paper sheet into the bottom removal-type paper supply apparatus.”

In the response to the arguments section of the Office Action mailed June 24, 2010, the

Examiner asserted that “according to the broadest reasonable interpretation the second pickup roller can be considered as selectively assisting the first pickup roller” (see the paragraph at the bottom of page 4 of the outstanding Office Action). This is submitted to be incorrect.

According to Takatoshi, the letting-out roller 21 must be engaged with a bank note in order for the bank note to be transported toward the feeding rollers 50, 51. Thus, the feeding rollers 50,51 are not engaged by a bank note unless the bank note is first transported in their direction by the letting-out roller 21. As such, the letting-out roller does not “selectively [assist] the first pickup roller to transport the paper sheet into the bottom removal-type paper supply apparatus” because the letting-out roller 21 and the feeding rollers 50,51 either work together to transport a bank note (by virtue of the transmission means 53) or are not engaged at all. Takatoshi discloses no such situation in which the feeding roller 50,51 are engaged and the letting-out roller is not activated, such that Takatoshi does not teach or make obvious the letting-out roller 21 selectively assisting the feeding rollers 50,51 to transport the bank note.

Additionally, in col. 4, lines 59-65, Takatoshi describes the letting-out roller 21 corresponding to the second pickup roller and the note feeding roller 51 corresponding to the first pickup roller as being linked via a transmission means 53 which is operated by a main motor. It appears that due to the described linked the letting-out roller 21 corresponding to the second pickup roller and the note feeding roller 51 corresponding to the first pickup roller are always working together, thereby not selectively working together as recited in claim 1.

c. Takatoshi does not anticipate “a pressing roller which applies a pressure to the paper stacked on the paper support base towards the first roller” as recited in claim 1

The note feeding roller 51 in Takatoshi allegedly corresponding to the first pickup roller recited in claim 1 does not “[apply] a pressure to the paper stacked on the paper support base towards the first roller.” Applicants can find no disclosure in Takatoshi that supports the examiner’s position that feeding roller 51 applies a pressure on a bank note toward the feeding roller 50. The fact that feeding rollers 50,51 are illustrated as touching one another in various of the drawings of Takatoshi does not yield the conclusion that feeding roller 51 applies a pressure on feeding roller 50, as one of ordinary skill in the art would clearly appreciate that two objects that merely touch each other do not necessarily apply pressure to one another. Furthermore, the mere passing of a bank note between the feeding rollers 50,51 also does not inherently result in a pressure applied by the feeding roller 51 toward the feeding roller 50, as such a passing would merely apply a rotational pressure on the bank note itself. Also, the various drawings of

Takatoshi illustrate no mechanism that would be provided for allowing feeding roller 51 to apply a pressure toward feeding roller 50.

- d. **Takatoshi does not anticipate “a second pickup roller, located at a central portion of the paper stack, to assist the first pickup roller to transport the sheet of paper into the paper supply apparatus when the paper stack weighs more than a prescribed weight” as recited in claim 5**

The Examiner appears to take the position that the letting-out roller 21 (see e.g. FIG. 1 of Takatoshi) corresponds to the second pick-up roller of the claim 5 apparatus. However, in Takatoshi, no banknote is output unless the letting out roller 21 is in contact with the banknotes stack (see col. 5, lines 13-40). Therefore, the letting-out roller 21 does not anticipate or render obvious the second pickup roller recited in claim 1 which “assist the first pickup roller to transport the sheet of paper into the paper supply apparatus when the paper stack weighs more than a prescribed weight. Appellants found no evidence that Takatoshi teaches or suggests considering weight of the paper stack as to whether the letting-out roller 21 would assist the note feeding roller 51. Moreover, the note feeding roller 51 in Takatoshi would not be able to transport the sheet of paper without employing also the letting-out roller 21, irrespective of weight (see e.g., in col. 5 lines 32-40 of Takatoshi reproduced on page 7 of the Appeal Brief).

- e. **Takatoshi does not anticipate “a first pickup roller [...] to pick a paper sheet from the paper stack” as recited in claim 5**

The note feeding roller 51 in Takatoshi apparently corresponding to the first pickup roller recited in claim 5 does not “[pick] a paper from the paper stacked on the paper support base”, the feeding roller 51 transports the banknote only if and after the letting out roller 21 picked the banknote from the stack. Therefore, the feeding roller 51 in Takatoshi does not anticipate the first pickup roller as recited in claim 5.

- f. **Takatoshi does not anticipate “a shutter to prevent contact between the second pickup roller and the paper stack while the paper stack weights less than the prescribed weight” as recited in claim 5**

Appellants found no evidence that Takatoshi teaches or suggests considering weight of the paper stack in connection with whether the letting-out roller 21 would be allowed by the shutter mechanism to be in contact with the paper stack. The Examiner fails to set forth a *prima facie* case regarding the above-identified feature.

g. Dependent Claims 2 and 4-6

Dependent claims 2 and 4-6 depend from independent claim 1 and patentably distinguish over the cited prior art for at least the reasons discussed above with respect to claim 1.

h. Dependent Claims 2 and 7

Dependent claims 2 and 7 depend from independent claim 1. Kawano fails to make up for the deficiencies in Takatoshi discussed above with respect to claim 1, so that claim 1 patentably distinguishes over Takatoshi and Kawano. Thus, claims 2 and 7 patentably distinguish over the cited prior art for at least the reasons discussed above.

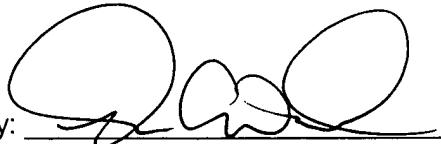
VIII. CONCLUSION AND SUMMARY

Applicants submit that claims 1-2 and 4-7 patentably distinguish over the prior art. Reversal of the Examiner's rejection is respectfully requested.

Respectfully submitted,

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Date: 1-24-04

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VIII. THE CLAIM APPENDIX

1. A bottom removal-type paper supply apparatus, comprising:

a paper support base on which paper is stacked located at a bottom part of the bottom removal-type paper supply apparatus;

a first pickup roller provided at an end portion of the paper stacked on the paper support base, on a side toward a body of the bottom removal-type paper supply apparatus, and which picks a paper sheet from the paper stacked on the paper support base from the bottom and transports the paper sheet on a paper path;

a pressing roller which applies a pressure to the paper stacked on the paper support base towards the first roller, and which is provided at the end portion of the paper stacked on the paper support base;

a second pickup roller provided at a central portion of the paper stacked on the paper support base, and selectively assisting the first pickup roller to transport the paper sheet into the bottom removal-type paper supply apparatus; and

a shutter switchable between an open state in which the paper is in contact with the second pickup roller enabling the second pickup roller to assist the first pickup roller to transport the paper on the paper path, and a closed state in which the shutter prevents the contact between the paper and the second pickup roller, the shutter being provided on the second pickup roller.

2. A bottom removal-type paper supply apparatus as set forth in claim 1, wherein the pressure applied to the paper by the pressing roller is adjustable.

3. A bottom removal-type paper supply apparatus as set forth in claim 1, further comprising a mechanical assembly to switch the shutter to the open state from the closed state when the weight of the paper stacked on the paper support base exceeds an elastic force of a spring included in the mechanical assembly.

4. A bottom removal-type paper supply apparatus as set forth in claim 1, further comprising a sensor located along the paper path, to sense when the first pickup roller fails to transport the paper on the paper path while the shutter is in the closed state, and to send a control signal to switch the shutter in the open state , the shutter being controlled to be in the open state when a failure of the first pickup roller to transport the paper on the paper path has

occurred, and to be in the closed state while the first pickup roller successfully transports the paper on the paper path through the apparatus.

5. A paper supplying device supplying one sheet of paper at a time in an image processing apparatus, comprising:

a first pickup roller, located at an end portion of a paper stack, to pick a paper sheet from the paper stack, and to transport the paper sheet into the paper supply apparatus;

a second pickup roller, located at a central portion of the paper stack, to assist the first pickup roller to transport the sheet of paper into the paper supply apparatus when the paper stack weighs more than a prescribed weight; and

a shutter to prevent contact between the second pickup roller and the paper stack while the paper stack weights less than the prescribed weight.

6. The bottom removal-type paper supply apparatus as set forth in claim 1, wherein the shutter and the second pick-up roller have a common axis, and the shutter has at least one first portion that has an arcuate cross section, which extends to a larger distance from the common axis than the pickup roller, and at least one second portion, which extends to a smaller distance from the common axis than the pickup roller, and

the at least one first portion is in contact with the paper stacked on the paper support base when the shutter is closed.

7. The bottom removal-type paper supply apparatus as set forth in claim 2, wherein the pressure applied to the paper by the pressing roller is increased in steps when the first pickup roller fails to transport the paper on the paper path.

IX. EVIDENCE APPENDIX

Not applicable.

X. RELATED PROCEEDING APPENDIX

Not applicable.